

2014 Maryland FMP Report (September 2015)

Section 21. White Perch (*Morone americana*)

White perch are among the most important recreational and commercial finfish species in Maryland. The species has high sport and food value. White perch usually rank in the top five commercially valuable finfish in the state (\$1.2 - \$1.4 million wholesale value landed).¹ An estimated harvest of 312,273 pounds was taken by recreational fishermen in 2014.² White perch are commonly kept for food by sport fishermen. They are sold at reasonable prices by commercial fishermen “over the tailgate” or roadside stands as well as seafood markets.

Maryland FMP

A Maryland Fishery Management Plan (FMP) for White Perch was drafted in 1990 but was never formally adopted by reference into Maryland regulations. The Maryland FMP continues to provide a framework for managing the white perch resource. The FMP includes descriptions of the life history, fisheries, economic perspective, resource status, habitat issues, FMP status, management unit, status of traditional fishery management approaches, and data needs. The management framework includes goals and objectives, problem areas, and management strategies. The 1990 plan was reviewed in 2005 and again in 2015. No changes were recommended to the management of white perch in Maryland at this time.

Stock Status

The 2009 Maryland stock assessment noted that biomass was above minimum stock levels and estimated fishing mortality was lower than necessary to maintain stock abundance. The assessment cautiously noted that some indices of commercial catch-per-unit-effort (CPUE) were trending lower while recreational CPUE trended higher. The 2009 stock assessment used a surplus production model for the Maryland portion of the Chesapeake Bay and a Catch Survey Analysis (CSA) in the Choptank River.³ The 2011 white perch stock assessment used a different modeling approach to better describe the white perch populations regionally. The CSA model results described population dynamics in the Upper Bay and Choptank River from 2000 to 2010. The most recent stock assessment (2015) used the same methodology as 2011 but included the latest three years of data (2012-2014).

White perch relative abundance in the upper Bay was above the average in 2013 and below average in 2014 (Figure 1). There is less available data for Lower Bay white perch populations. For those areas, both fishery-dependent and fishery-independent indices were examined.⁴ Although biological reference points (BRP) have not been formally established, an $F_{\text{target}}=0.60$ was suggested. Between 2000 and 2013 F has not exceeded the F_{target} .⁴ Based on the proposed target F , overfishing is not occurring.

Both Maryland and Virginia calculate young of the year (YOY) indices for white perch. Results from recent years have shown average to below average YOY abundances. In 2013, resident white perch showed about average reproduction and was well above average in 2014 (Figure 2).⁴ In addition to YOY surveys, an adult white perch index was calculated with data from the Potomac River Striped Bass Spawning Stock Survey.

Current Management Measures

White perch are managed in coordination with striped bass because they overlap in habitat. They are also caught using some of the same commercial gear types such as drift gill nets, although fyke nets are also used to harvest white perch. White perch are managed as a single stock throughout its range in Maryland’s portion of the Chesapeake Bay. The commercial fishery is regulated with gear and area restrictions and an 8” minimum size limit if caught by net. There is no size limit for fish caught by hook & line in the commercial and recreational fishery. There is no closed season or creel limit in either white perch fishery. Virginia has no size, creel, or season limits for recreational or commercial fishing.

The Fisheries

Maryland commercial landings in 2013 were 1.24 million pounds with an estimated value of 1.32 million dollars (Figure 3).¹ Maryland commercial landings for white perch were 1.5 million pounds in 2014 with an estimated value of \$1.04. The estimated recreational harvest of white perch in 2014 was below the long-term average of 587,130 lbs. (1981-2014) (Figure 4).

Issues/Concerns

White perch harvests have recently rebounded from a period of lower reports in the mid-2000’s (Fig.3). Fishing mortality has been low except for the most recent years and the species is considered relatively resilient. The juvenile index is variable. High young-of-year CPUE values were found in 2001, 2003 and 2004 and were followed by high gill net catches in 2004 – 2006. Fishery independent sampling after 2007 produced inconclusive results.³ The Fisheries Service FMP plan review team stated that water quality and habitat are issues of concern for white perch.

Figure 1. Age 1 white perch relative abundance from upper Chesapeake Bay winter trawl survey. Not sampled in 2004, small sample sizes 2003 and 2005.

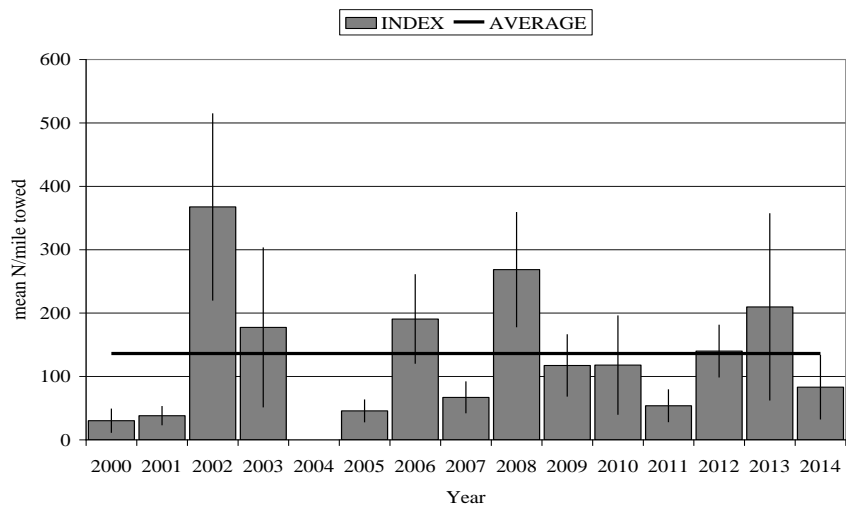


Figure 2. Maryland young-of-year geometric mean catch per haul for white perch, 1962 – 2014. (EJFS data)

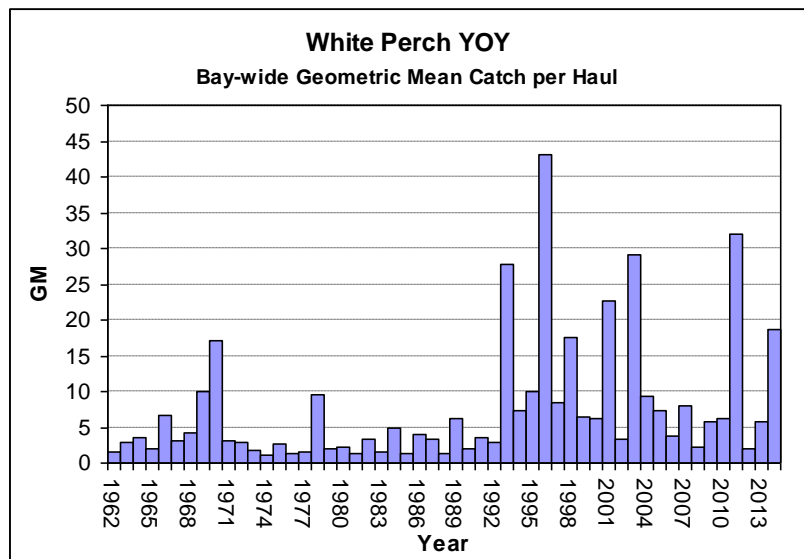


Figure 3. Commercial landings of white perch from Maryland, 1981-2014. ¹

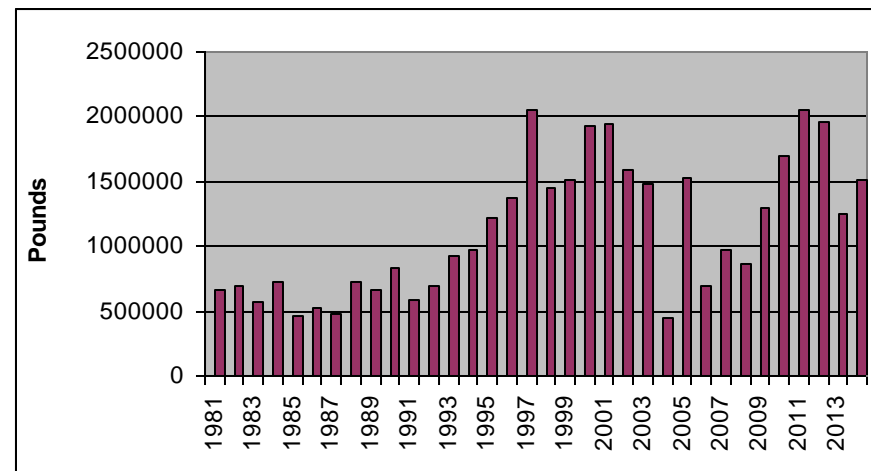
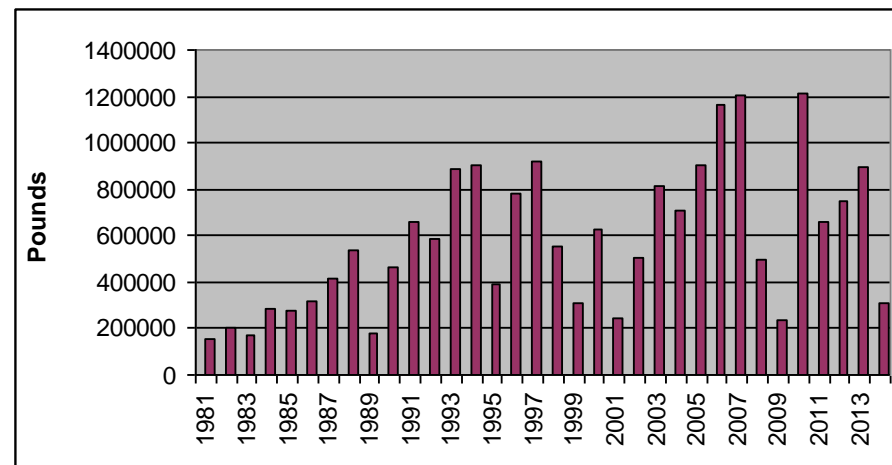


Figure 4. Estimated recreational white perch harvest from Maryland, 1981-2014. ²



References:

¹ Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division, Commercial Fisheries. July 21, 2014.

² Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division, Recreational Fisheries. July 21, 2014.

³ Piavis, P.G. and E. Webb III. 2012. Population assessment of white perch in Maryland with special emphasis on Choptank River stocks. Maryland Department of Natural Resources, Federal Aid Report F-61-R, Annapolis, Maryland.

⁴ Piavis, P.G. and E. Webb III. 2015. Population vital rates of resident finfish in selected tidal areas of Maryland's Chesapeake Bay. Maryland Department of Natural Resources, Fisheries Service Report F-61-R-9. Annapolis, Maryland.

| Draft 1990 White Perch Fishery Management Plan Implementation Table (updated 7/15) | | | |
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| Problem Area | Action | Date | Comments |
| Mixed Fishery 1.1. Coordinate management with striped bass actions. | 1.1. The white perch fishery will abide by striped bass restrictions. Striped bass bycatch will be minimized. | 1990 Continue | Commercial gear restrictions and area restrictions and closures apply. White perch are primarily caught with gill nets and fyke nets, both of which have mesh size and location restrictions that, in some cases, vary seasonally. |
| Optimum Harvest 2.1. White perch populations exhibit growth differences. | 2.1. Consider eliminating minimum size limits. | 1990 Continue | Minimum size limit for commercial and non-H&L recreational set at 8"; no size limit for recreational H&L. |
| Stock Assessment 3.1. Basic stock information is lacking, including commercial and recreational harvest size and age-composition. | 3.1. Stock assessments will be performed periodically. | Periodic | <p>White perch stock assessments are performed every three to four years. A stock assessment survey was conducted in 2011 and 2015 and employed a catch survey analysis. This type of analysis has been better than surplus production models for assessing stock size. Young-of year surveys produced high CPUE values from 1994-2001 and 2003-2004. However, fishery independent indices often conflicted and differed between areas examined.</p> <p>Fishing mortality rates have decreased since 1997. Since 2000, fishing mortality rates have been under $F=0.60$ and the population has increased. Total upper Bay population abundance has been variable from 11 million fish (2001) to 4.4 million (2007.)⁴ The 2013 total population estimate for the upper Bay was approximately 10 million fish. .</p> <p>White perch stocks are not overfished and overfishing is not occurring, based on the suggested $F_{\text{target}} = 0.60$. However, formal BRPs have not been adopted.</p> |

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| <p>Habitat Issues</p> <p>4.1. Water quality impacts distribution and abundance of finfish species in Chesapeake Bay.</p> | <p>4.1. MD will develop objectives for finfish water quality standards under the latest Bay agreements, including, nutrient and toxics reduction strategies on a watershed approach.</p> | <p>Ongoing</p> | <p>Watershed indicators for aquatic systems include water quality as well as components of aquatic systems, biological diversity, hydrologic, and terrestrial system.</p> <p>http://www.dnr.state.md.us/watersheds/surf/indic/md/md_indic.html</p> <p>This Maryland Integrated Watershed Data and Information System is a cooperative effort between the DNR and Dept. of Environment and provides a comprehensive database of natural resources and biological information for watershed indicators, profiles, bibliography, planning & strategies, and organizations.</p> <p>The Chesapeake Bay Program tools to track water quality improvement can be found at: http://www.chesapeakebay.net/track/tools</p> |
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Acronyms:

BRPs = Biological Reference Points

CPUE = Catch per Unit Effort

DNR = Department of Natural Resources

F = Fishing Mortality

H & L = Hook and Line